

Use of Technology in the Classroom to Increase Professional Preparation

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ABSTRACT

The American Association of Colleges of Nursing Essentials of Master's Education require advanced practice nursing students to be familiar with electronic technologies and consult with other disciplines to coordinate care. To expand beyond learning basic electronic medical record documentation, collaboration with school of pharmacy students for submitting and incorporating consults on specific patients was included into the assignments of learning clinical SOAP (subjective, objective, assessment, and plan) notes. Significant revision of the original Cerner (Kansas City, MO) cases was required to provide a primary care focus and meet the needs of 7 different majors. Technology facilitated an interprofessional experience that benefited both student groups. The key lessons learned are shared.

Keywords: Cerner, documentation, electronic medical record, interprofessional, SOAP

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The Master's Essentials are a list of core elements that need to be met for all master's programs in nursing. They describe the anticipated outcomes of all graduates of nursing programs. Essential V: Informatics and Healthcare Technologies recognizes that "master's prepared nurses use patient care technologies to deliver and enhance care and uses communication technologies to integrate and coordinate care."¹ Essential V11: Interprofessional Collaboration for Improving Patient and Population Health Outcomes states that the "master's prepared nurse, as a member and leader of an interprofessional team, communicates, and consults with other healthcare providers to manage and coordinate care."¹ Through interprofessional education (IPE), health care professionals work together as a team toward a common goal of improving patient care.² This type of team training has been shown to increase health care students' perceived self-efficacy compared with traditional clinical education.³ The following describes a learning activity using an academic electronic medical record (EMR) and collaboration between graduate advanced practice nursing (APN) students and school of pharmacy (SOP) students to meet the Essentials in Master's Education preparation and to meet the

challenge of retooling health professions education called for by the Macy Foundation.⁴

PROBLEM

The advanced practice program at our university recognized that APN students were lacking IPE experiences using communication technologies to coordinate patient care. Students rotated through various clinical sites, and their use of an EMR was compromised by several factors. Each site required orientation and clearance to use a different EMR system, and most students were not given access to the EMR while in clinical rotations. Many students did not have actual experience in documenting the patient encounter in an electronic format and working as a member of an interprofessional team via an EMR.

TECHNOLOGY SOLUTION

During the advanced physical assessment course, students learn documentation and complete a problem-focused SOAP (subjective, objective, assessment, and plan) note assignment. Traditionally, students have handwritten this without the use of an academic EMR and without an IPE experience. Under the umbrella of a Health Resources and

Services Administration grant at the University of Colorado College of Nursing that facilitated the adoption of the Cerner Academic Education Solution (AES; Cerner, Kansas City, MO) for use in an IPE opportunity, the instructors for the course decided to avail themselves of the technology to also meet the documentation need and Master's Essentials. The Cerner AES is a fully functioning EMR, which can be used as a teaching and learning tool for simulation in the academic setting. Plans were made to include a collaboration and consultation interaction with the SOP students and document a complete problem-focused SOAP note using the Academic Cerner EMR. This enabled the creation of a platform for students to expand their comprehension that "an important function of the medical record is to provide a means of communication amongst disciplines."⁵

Although all EMR systems vary, the academic EMR has much of the look and feel of many other EMR systems. It offers patient charts within the platform for use in student learning; however, many of these patients were acute care focused and not appropriate for the outpatient primary care visits required for the APN students in the course. It required a significant amount of work to be undertaken by the teaching team to coordinate with the academic EMR support staff in order to generate working charts to satisfy this need. Nine patient cases were developed to meet the patient focus of each advanced practice major within the class (Table 1).

Cases crossed the life span and also included mental health issues.

The advanced physical assessment course annually enrolls approximately 110 students from 7 different APN majors. In order to decrease the requirement to generate a new case for every student, it was determined to be best to duplicate academic EMR records with different middle initial identifiers so that students in the same major could complete individualized assignments yet reduce instructor workload by using the same grading rubric for each student.

To reduce student anxiety and to facilitate self-directed learning, a series of media presentations were prepared by the instructors and posted to the electronic academic support system as part of the course introduction. This was followed by a series of detailed step-by-step documents including color screen shots from the academic EMR. They were designed to support student access and decrease any hesitancy of using the system. First, students completed a navigation activity in which they accessed a chart and were on a hunt to find certain information within the chart (such as the patient's allergies, immunization, last visit, and so on). This activity provided the students an opportunity to explore the system and obtain feedback before opening the major SOAP note assignment. To further decrease anxiety, a hands-on orientation session was held in the computer laboratory. One-on-one appointments were made available for those who could not attend the computer sessions.

Table 1. Advanced Physical Assessment Student Cerner Patient Case Assignments

Advanced Practice Option	Age/Sex	Complaint
Pediatric nurse practitioner	7/male	Nose will not stop running
Women's health nurse practitioner	42/female	Establish care, birth control refill request
Clinical nurse specialist	58/female	Acute abdominal pain
Adult gerontology nurse practitioner (AGNP)	84/female	Getting forgetful
Nurse midwife	22/female	Nauseated and pregnant
Family nurse practitioner/AGNP	61/male	Increased pain, laboratory results
Family psych mental health nurse practitioner	47/male	Follow-up on depression medication
Family nurse practitioner/AGNP	54/male	Increased pain in legs/feet
Family nurse practitioner/AGNP	37/male	Laboratory results, refill request

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